

REMARKS

In the present amendment, claim 1 has been amended. Of the pending claims, claims 1, 2 and 4-8 are under consideration, and claims 9-12 and 14 are withdrawn from consideration.

Applicants note that claim 1 has been amended by more specifically describing the three-dimensional nanotunnel layer. Support for the amendment can be found throughout the originally filed specification, e.g., at page 5, lines 6-7, and page 10, line 25 to page 11, line 4. No new matter has been added.

Response to rejection under 35 U.S.C. § 102(b)/103(a)

The Office Action maintains the rejection of claims 1, 2, and 4-6 under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over JP 03-065579. The Office Action asserts that the calcium phosphate comprising coating surface taught in JP'579 discloses all elements of the presently claimed invention arguing that the coating in JP'579 "would substantially inherently have plurality of three dimensionally interconnected nanopores so as to enable the porous membrane suitable as an absorbent."

In response, Applicants respectfully note that in order to advance prosecution of the application and without expressing agreement with or acquiescence to the rejection, claim 1 has been amended to recite "a porous calcium phosphate ceramic body comprising a substrate having fine pores, and three-dimensional nanotunnel layers formed on wall surfaces of said fine pores and having pluralities of three-dimensionally connected nanotunnels, wherein said three-dimensional nanotunnel layers are formed in the fine pores inside the substrate." Support for the amendment can be found throughout the originally filed specification, for example, page 5, line 6-7; page 10, line 25 to page 11, line 4; and page 11, lines 13-20.

Applicants note that the formation of a three dimensional nanotunnel structure originating within the fine pores of the substrate employs the immersion of the substrate in a calcium phosphate slurry, followed by defoaming the slurry under reduced pressure, as illustrated in the originally filed specification, for example, at page 11, paragraphs [0046] and [0047].

In contrast, JP'579 teaches a method of atomizing and spraying a calcium phosphate slurry on a ceramic body in order to create a thin calcium phosphate membrane. As can be easily concluded, the amount of calcium phosphate particles entering the pores by just spraying the ceramic body with the slurry is very low. Accordingly, the amount of calcium phosphate entering the pore volume of the substrate would not be sufficient to enable the formation of a three-dimensional nanotunnel layers onto the inner pore walls of the substrate. Therefore, the coating layer disclosed in JP'579 fails to disclose the presently claimed three-dimensional nanotunnel layers which are formed in the fine pores inside the substrate, i.e., the ceramic body.

As a further result, it can be said that the uniform calcium phosphate porous membrane disclosed in JP'579 has much lower strength than the coating layer of the presently claimed invention and may be peeled of much easier from the ceramic body by physical contact compared to the coating of the presently claimed invention.

Applicants moreover respectfully disagree to the assertion of the Office Action that the present invention would be obvious over the '579 document. There is nothing in the '579 document that suggests or would have motivated someone of ordinary skill in the art that three-dimensional nanotunnel layers are formed in the fine pores inside the substrate. Absent such teaching or suggestion, the '579 document cannot render obvious the presently claimed invention.

Accordingly, for at least the foregoing reasons, applicants respectfully request withdrawal of the rejection of claims 1, 2, and 4-6 under 35 U.S.C. §§ 102(b) and 103(a).

Response to rejections under 35 U.S.C. § 103

The Office Action also maintains the rejection of claims 7 and 8 under 35 U.S.C. § 103(a) as allegedly being unpatentable over JP 03-065579 as applied to claim 1 above, and further in view of JP 2003-073182. The Office Action repeats the assertion that the '579 document anticipates or strongly suggests the presently claimed invention as applied in claim 1, and concludes that it would be obvious to combine the '579 document with the disclosure of JP 2003-073182 ("the '182 patent"), which allegedly teaches calcium phosphate substrate material having a porosity of 5 to 50% and a Ca/P ratio from 1.5 to 1.7 for bone substitution.

In response, as pointed out above, in order to advance prosecution of the application and without expressing agreement with or acquiescence to the rejection, claim 1 has been amended to to recite "a porous calcium phosphate ceramic body comprising a substrate having fine pores, and three-dimensional nanotunnel layers formed on wall surfaces of said fine pores and having pluralities of three-dimensionally connected nanotunnels, wherein said three-dimensional nanotunnel layers are formed in the fine pores inside the substrate."

Applicants respectfully note that claims 7 and 8 depend ultimately from claim 1 and are patentable for at least the same reasons that claim 1 is patentable over the '579 document. Moreover, despite the Office Action's assertions regarding reasons for combining the teachings, there is nothing in either the '579 document or in the '182 patent that would have led to their combination.

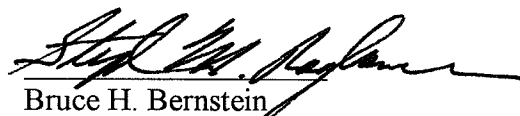
Applicants respectfully request withdrawal of the rejection of claims 7 and 8 for obviousness.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims. Applicant therefore respectfully requests that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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